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EXAMINER

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ART UNIT	PAPER NUMBER
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3104

DATE MAILED:

10/21/97

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No. 08/738,415	Applicant(s) Stocker
Examiner Steven J. Ganey	Group Art Unit 3104

 Responsive to communication(s) filed on Oct 25, 1996 This action is **FINAL**. Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims Claim(s) 1-31 are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

 Claim(s) _____ is/are allowed. Claim(s) 1-31 are rejected. Claim(s) _____ is/are objected to. Claims _____ are subject to restriction or election requirement.**Application Papers** See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948. The drawing(s) filed on _____ is/are objected to by the Examiner. The proposed drawing correction, filed on _____ is approved disapproved. The specification is objected to by the Examiner. The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. § 119** Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d). All Some* None of the CERTIFIED copies of the priority documents have been received. received in Application No. (Series Code/Serial Number) _____. received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

 Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).**Attachment(s)** Notice of References Cited, PTO-892 Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ Interview Summary, PTO-413 Notice of Draftsperson's Patent Drawing Review, PTO-948 Notice of Informal Patent Application, PTO-152**--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---**

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 6, line 32, the application number -08/738,414- should be inserted; on page 7, line 11, "Hopper 27" should be -Hopper 26-; on page 8, line 8, "30'" should be -30'-; on page 11, line 5, "132" should be -132'-; in claim 8, line 31, "a" should be deleted; and in claim 22, line 16, "injector" should be -injectors-.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-10, 12-14, 17, 18, 26, 27 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maedgen, Jr. in view of Waldrum.

Maedgen, Jr. discloses all the featured elements of the instant invention, (an apparatus for the delivery of beneficial insects comprising a hopper 28/228; a metering device/rotating disk 40

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having at least one aperture 44; a delivery tube 14/23; a tubular chamber 20/22/24; a collection bin 165/265 with a spout 136/236; a stirrer 59/259; a housing 132; and means 16 for mounting to an airplane), except for introducing a binder solution into the air stream to coat the insects prior to being expelled from the outlet of the chamber. Waldrum teaches a similar arrangement of a particulate like matter where a sticking agent can be mixed with the particulate like matter prior to being dispensed in the air, see Figure 12 and column 9, line 49 through column 10, line 19. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to introduce a binder solution into the air stream to coat the insects prior to being expelled from the outlet of the chamber in the device of Maedgen, Jr. since Waldrum teaches that to ensure the adhesion of the particulate matter to plants it is necessary to coat the particulate matter with a sticking agent prior to being dispensed into the air which would make the device of Maedgen, Jr. more effective by a reduction in drifting of the insects and better adhesion of the insects to the plants or crops to be treated.

As to claims 2, 7 and 11, the type of metering device used, whether it is a rotating disk, spur gear or rotor is not of patentable significance, since all three of these elements perform the same function of metering particulate matter, which merely amounts to the substitution of one metering means for another.

As to claims 6, 7 and 14, the shape of the delivery tube is merely a matter of obvious design choice, since the shape is not of patentable significance as long as the delivery tube is directed towards the outlet of the chamber.

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As to claims 8, 16 and 29, the angle of the binder solution injectors is merely a matter of obvious design choice, as long as the angle chosen directs the injectors towards the outlet of the chamber. Also, providing two injectors in the device is merely a duplication of parts and involves only routine skill in the art.

As to claims 26, 27 and 29, the device of Maedgen, Jr., as modified by Waldrum, performs the processes of controlling insect pests and delivering beneficial insects as claimed.

As to claim 30, to introduce the insects axially into the chamber is merely a matter of obvious design choice as long as the insects are directed towards the outlet of the chamber.

4. Claims 15 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maedgen, Jr. in view of Waldrum as applied to claims 10 and 27 above, and further in view of Spivak et al.

Maedgen, Jr., as modified by Waldrum, has been discussed above and discloses all the featured elements of the instant invention except for an optical sensor to monitor the flow into the delivery tube. Spivak et al shows an apparatus for enhancing the feeding of particles from a hopper with an optical sensor 68 for monitoring the flow of particles from a hopper, see Figure 1 and column 4, line 17 through column 5, line 8. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an optical sensor at the inlet end of the delivery tube in the device of Maedgen, Jr., as modified by Waldrum, as taught by Spivak et al, since with such a modification the flow rate of the insects can be monitored

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exiting the hopper and flowing through the delivery tube which in case of a decrease in flow of insects through the delivery tube a warning signal could be provided.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maedgen, Jr. in view of Waldrum as applied to claim 10 above, and further in view of Endicott.

Maedgen, Jr., as modified by Waldrum, has been discussed above and discloses all the featured elements of the instant invention except for the chamber's inlet end configured as a reverse venturi. Endicott shows an apparatus with a venturi including a reverse venturi. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a reverse venturi at the inlet end of the chamber in the device of Maedgen Jr., as modified by Waldrum, since Endicott teaches that a reverse venturi concentrates particles towards the center of a flow stream, therefore, such a modification would not significantly alter the function of the device of Maedgen, Jr., as modified by Waldrum, and it would work equally as well with a reverse venturi provided at the inlet 21 to chamber 20/22/24 since there would still be a pressure drop at the venturi section 22.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maedgen, Jr. in view of Waldrum as applied to claim 10 above, and further in view of Sperber.

Maedgen, Jr., as modified by Waldrum, has been discussed above and discloses all the featured elements of the instant invention except for a pressure regulator in fluid communication with at least one injector. Sperber shows an apparatus with a chamber 52/56 for introducing a binder into an air stream to mix with a fibrous material including a pressure regulator 96.

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Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a pressure regulator in the device of Maedgen Jr., as modified by Waldrum, as taught by Sperber, since such a modification would provide more flexibility in monitoring and controlling the flow of the binder solution mixing with the insects to increase or decrease the adhesiveness of the mixture.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maedgen, Jr. in view of Waldrum as applied to claim 10 above, and further in view of Kitterman.

Maedgen, Jr., as modified by Waldrum, has been discussed above and discloses all the featured elements of the instant invention except for blower means connected at the inlet end of the chamber. Kitterman shows an apparatus with a blower means 1 connected to an inlet end of a chamber. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a blower means connected at the inlet end of the chamber in the device of Maedgen Jr., as modified by Waldrum, as taught by Kitterman, since with such a modification the device could be modified to be used on a tractor or other vehicle means.

8. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maedgen, Jr. in view of Waldrum, Spivak et al and Endicott.

Maedgen, Jr. discloses all the featured elements of the instant invention, (an apparatus for the delivery of beneficial insects comprising a hopper 28/228; a metering device/rotating disk 40 having at least one aperture 44; a delivery tube 14/23; a tubular chamber 20/22/24; a collection bin 165/265 with a spout 136/236; a stirrer 59/259; a housing 132; and means 16 for mounting to

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an airplane), except for introducing a binder solution into the air stream to coat the insects prior to being expelled from the outlet of the chamber, an optical sensor encircling the delivery tube and a reverse venturi at the chamber inlet. Waldrum teaches a similar arrangement of a particulate like matter where a sticking agent can be mixed with the particulate like matter prior to being dispensed in the air, see Figure 12 and column 9, line 49 through column 10, line 19. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to introduce a binder solution into the air stream to coat the insects prior to being expelled from the outlet of the chamber in the device of Maedgen, Jr. since Waldrum teaches that to ensure the adhesion of the particulate matter to plants it is necessary to coat the particulate matter with a sticking agent prior to being dispensed into the air which would make the device of Maedgen, Jr. more effective by a reduction in drifting of the insects and better adhesion of the insects to the plants or crops to be treated.

Spivak et al shows an apparatus for enhancing the feeding of particles from a hopper with an optical sensor 68 for monitoring the flow of particles from a hopper, see Figure 1 and column 4, line 17 through column 5, line 8. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an optical sensor at the inlet end of the delivery tube in the device of Maedgen, Jr., as modified by Waldrum, as taught by Spivak et al, since with such a modification the flow rate of the insects can be monitored exiting the hopper and flowing through the delivery tube which in case of a decrease in flow of insects through the delivery tube a warning signal could be provided.

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Endicott shows an apparatus with a venturi including a reverse venturi. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a reverse venturi at the inlet end of the chamber in the device of Maedgen Jr., as modified by Waldrum and Spivak et al, since Endicott teaches that a reverse venturi concentrates particles towards the center of a flow stream, therefore, such a modification would not significantly alter the function of the device of Maedgen, Jr., as modified by Waldrum and Spivak et al, and it would work equally as well with a reverse venturi provided at the inlet 21 to chamber 20/22/24 since there would still be a pressure drop at the venturi section 22.

As to claim 23, the type of metering device used, such as a spur gear as claimed, is not of patentable significance, as long as the device chosen meters the insects.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maedgen, Jr. in view of Waldrum, Spivak et al and Endicott as applied to claim 22 above, and further in view of Williams.

Maedgen, Jr., as modified by Waldrum, Spivak et al and Endicott, as discussed above discloses all the featured elements of the instant invention except for a coupling means for mounting a backpack blower. Williams shows a backpack blower with a coupling means 28a. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a coupling means for mounting a backpack blower to the apparatus of Maedgen Jr., as modified by Waldrum, Spivak et al and Endicott, as taught by Williams, since such a modification would make the device portable.

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10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maedgen, Jr. in view of Waldrum, Spivak et al and Endicott as applied to claim 22 above, and further in view of Kitterman.

Maedgen, Jr., as modified by Waldrum, Spivak et al and Endicott, as discussed above discloses all the featured elements of the instant invention except for mounting the apparatus to a tractor. Kitterman teaches that such an apparatus can be mounted to an airplane, tractor or other vehicle means. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount the apparatus of Maedgen Jr., as modified by Waldrum, Spivak et al and Endicott to a tractor, since Kitterman teaches that such an apparatus can easily be adapted to work on any number of vehicles or aircraft.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miller and Uribe et al show apparatuses with gear type metering devices for hoppers. Cole et al shows a portable backpack blower used to deliver a powder. Balmer shows a granular or seed applicator with a reverse venturi. Show teaches the use of a carrier in combination with beneficial insects for application to crops. Skinner shows an insect dispensing apparatus and method.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven J. Ganey whose telephone number is (703) 308-2585. The examiner

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can normally be reached on Monday-Thursday from 8:00 AM to 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. Kashnikow, can be reached on (703) 308-1137. The fax phone number for this Group is (703) 308-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.

sjg

October 16, 1997

Andres Kashnikow
ANDRES KASHNIKOW
SUPERVISORY PATENT EXAMINER
ART UNIT 314
10/17/97